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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,408	01/05/2007	Patrick Bosche	BHC 031062	2342

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EXAMINER	
HOLT, ANDRIAE M	

ART UNIT	PAPER NUMBER
1616	

NOTIFICATION DATE	DELIVERY MODE
10/26/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/576,408	BOSCHE ET AL.	
	Examiner	Art Unit	
	Andriae M. Holt	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) *6* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 7-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/30/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to Applicant's amendments filed June 30, 2009. Claims 1-10 are pending in the application. Claims 1-4 have been amended. Claims 5-10 are newly added.

Election/Restrictions

This application contains claims directed to the following patentably distinct species, quinolone antibiotic of formula (I) and formula (II). The species are independent or distinct because claims to the different species recite the mutually exclusive characteristics of such species. In addition, these species are not obvious variants of each other based on the current record.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic.

Applicant should elect quinolone antibiotic compounds represented by either formula (I) or formula (II). The compounds represented by formulas (I) and (II) represent a varied number of compounds based on the different chemical structures of the formulas and the varying number of substituents that can be chosen.

There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would

not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species**, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election of the species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

During a telephone conversation with Jessica Monachello on October 16, 2009, a provisional election was made without traverse to prosecute the invention of compounds of formula (I), claims 5, 7 and 8. Affirmation of this election must be made by applicant in replying to this Office action. Claim 6 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected species.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claims 1-10 are pending in the application. Claim 6 is withdrawn as being directed to a non-elected species. Claims 1-5 and 7-10 will presently be examined to the extent they read on the elected subject matter of record.

Information Disclosure Statement

Receipt of Information Disclosure Statement filed on June 30, 2009 is acknowledged.

Status of the Claims

Rejections not reiterated from the previous Office Action are hereby withdrawn. The following rejections are newly applied. They constitute the complete set of rejections presently being applied to the instant application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

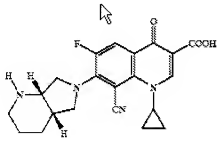
Claims 1-5 and 7-10 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Kalbe et al. (CA 2,431,698).

Applicant's Invention

Applicant claims a solid pharmaceutical formulation comprising an active pharmaceutical ingredient which is a quinolone antibiotic, 4 to 20% by weight of a flavoring which is a mixture of proteins, fats, and carbohydrates and at least 1.5% to 15% by weight of colloidal silicon dioxide based on the total weight of the finished formulation. Applicant claims the active pharmaceutical ingredient is enrofloxacin or pradofloxacin.

Determination of the scope of the content of the prior art (MPEP 2141.01)

Kalbe et al. teach pharmaceutical presentations for animals which are administered orally and which are accepted readily by the animals (for example dogs, cats and horses) (page 4-6). Kalbe et al. teach the invention comprises starch-based extruded shaped articles, characterized in that they comprise specific aromas, bodying agents and pharmaceutical active compounds for animals (page 2, lines 25-27). Kalbe et al. teach the shaped articles can also be used as carriers for the administration of other active compounds. Examples which may be mentioned are: antibiotics such as enrofloxacin (quinolone, enrofloxacin), and the compounds described in WO 97/31001, in particular 8-cyano-1-cyclopropyl-7-((1S,6S)-2,8-diazabicyclo- [4.3.0]nonan-8-yl)-6-fluoro-1,4-dihydro-4-oxo-3-quinolinecarboxylic acid of the



. The compound represented by this formula is

pradofloxacin, as evidenced by The Merck Index, 14th Edition. This compound and enrofloxacin are both compounds of formula (I) and (1a) of claims 5 and 7-8, see the Pradofloxacin and Enrofloxacin fact sheets from the Merck Index, 14th Edition. Kalbe et al. teach suitable aromas are powdered liver from cattle, poultry, sheep or pigs, preferably poultry and pigs, and other aroma preparations. Kalbe et al. teach amounts of between 1% and 30%, preferably between 5% and 25%, especially preferably between 5% and 20%, are employed (4 to 20% by weight). The percentages are percent by weight of the finished composition (page 21, lines 13-17). Kalbe et al. further teach very especially suitable are the aromas which are commercially available from Pharmachem (BEEF®) and Haarmann and Reimer (BAYOPAL®) under the names BEEF® and BAYOPAL® (flavoring which is a mixture of proteins, fats, and carbohydrates) (page 21, lines 19-21). Kalbe et al. teach in example 1, page 22, lines 3-9, 55% of wheat flour, 10% of fructose, 10% of beef aroma, Pharma-Chemie, 1% of Aerosil (colloidal silicon dioxide) and 4% of depsipeptide are homogenized and screened and the mixture is subsequently fed to an extruder via a measuring screw. Accordingly, 5% of water and 15% of glycerol (based on the total mixture) are pumped in via a metering pump. The extrusion temperature is 120° C. The extrudate formed is cut into pieces so that one piece contains the dose for 10 kg of the animal's bodyweight. The percentages here are to be understood as percent by weight. Kalbe et al. teach in example 2, 45% of cornstarch, 10% of sucrose, 10% of liver aroma, Haarmann & Reimer, 10% of cellulose acetate powder, 1% of Aerosil and 4% of depsipeptide are

homogenized and screened and the mixture is subsequently fed to an extruder via a measuring screw.

Ascertainment of the difference between the prior art and the claims (MPEP 2141.02)

Kalbe et al. do not teach any working examples wherein the active ingredient is a quinolone, enrofloxacin or pradofloxacin, or the specific weight range of the colloidal silicon dioxide.

Finding of prima facie obviousness
Rationale and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Kalbe et al. and use a quinolone as the active ingredient. One skilled in the art at the time the invention was made would have been motivated to use enrofloxacin or pradofloxacin, both quinolone antibiotics, because Kalbe teaches that the shaped articles can also be used as carriers for the administration of other active compounds, specifically named are the antibiotics enrofloxacin and pradofloxacin. As such, the skilled artisan would have been motivated to try enrofloxacin and pradofloxacin in the shaped articles used to enhance palatability of these active agents with a reasonable expectation of success.

In reference to the teaching that the colloidal silicon dioxide is 1.5 % to 15 % by weight of the formulation, one skilled in the art at the time the invention was made would have been motivated to use the various weigh ranges as routine experimentation to optimize the results of the formulation. The adjustment of particular conventional working conditions (e.g., determining result effective amounts of the ingredients, such

as the weight ratios), is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the skilled artisan.

Therefore, the claimed invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made because every element of the invention has been fairly suggested by the cited reference.

Claims 1 and 4 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Demuth, Jr. et al. (US 5,328,908) in view of Kalbe et al. (CA 2,431,698).

Applicant's Invention

Applicant claims a solid pharmaceutical formulation comprising an active pharmaceutical ingredient which is a quinolone antibiotic, 4 to 20% by weight of a flavoring which is a mixture of proteins, fats, and carbohydrates and at least 1.5% to 15% by weight of colloidal silicon dioxide based on the total weight of the finished formulation. Applicant claims the active pharmaceutical ingredient is enrofloxacin or pradofloxacin.

Determination of the scope of the content of the prior art (MPEP 2141.01)

Demuth et al. teach the compositions of this invention comprise: (a) a safe and effective amount of a quinolone thiourea; and (b) a pharmaceutically-acceptable carrier (col. 13, lines 13-16). Demuth et al. teach various oral dosage forms can be used, including such solid forms as tablets, capsules, granules and bulk powders. Demuth et al. teach that tablets can be compressed, tablet triturates, enteric-coated, sugar-coated, film-coated, or multiple-compressed, containing suitable binders, lubricants, diluents,

disintegrating agents, coloring agents, flavoring agents, flow-inducing agents, and melting agents (col. 14, lines 4-14). Demuth et al. teach in example 3, an enteric coated antimicrobial composition for oral administration is made comprising the following core tablet: compound (III) of Example 1 350.0 mg; starch 30.0 mg; magnesium stearate 5.0 mg; microcrystalline cellulose 100.0 mg; colloidal silicon dioxide 2.5 mg; povidone 12.5 mg and flavor 5.0 mg (col. 18, lines 3-20). The ratio of the colloidal silicon dioxide to flavoring is 1:2 which is within the range claimed in instant claim 1. Demuth et al. teach the compounds are used in methods of treating an infectious disorder in a human or other animal subject, by administering a safe and effective amount of a quinolone thiourea to said subject (col. 14, lines 43-46).

Ascertainment of the difference between the prior art and the claims (MPEP 2141.02)

Demuth et al. do not teach the flavor is a mixture of proteins, fats, and carbohydrates or the specific weight percentage of the colloidal silicon dioxide. It is for this reason Kalbe et al. is joined as a secondary reference.

The teachings of Kalbe et al. with respect to the 35 U.S.C. 103(a) rejection is hereby incorporated and are therefore applied in the instant rejection as discussed above.

Finding of prima facie obviousness
Rationale and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Demuth et al. and Kalbe et al. and use a flavoring agent that is a mixture of proteins, fats, and carbohydrates. Demuth et al. teach that other agents are used in formulating the compositions into tablets including flavoring.

One skilled in the art at the time the invention was made would have been motivated to use a flavoring that is a mixture of proteins, fats, and carbohydrates because Kalbe et al. teach flavors that are starch based and have specific aromas, such as beef or poultry liver are more readily accepted by animals. In addition, Kalbe et al. teach the shaped articles that have aromas are suitable for quinolone antibiotics, the same class of antibiotics as taught by Demuth et al.

Therefore, the claimed invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made because every element of the invention has been fairly suggested by the cited reference.

None of the claims are allowed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andriae M. Holt whose telephone number is 571-272-9328. The examiner can normally be reached on 9:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Andriae M. Holt
Patent Examiner
Art Unit 1616

/John Pak/
Primary Examiner, Art Unit 1616